

CLAIMS

1. A field effect transistor comprising a III group nitride semiconductor layer structure including hetero junction, a source electrode and a drain electrode that are so formed on said semiconductor layer structure as to be separated each other, a gate electrode formed between said source electrode and said drain electrode, and an insulating film formed on said semiconductor layer structure, characterized in that
5 said gate electrode has a field plate portion that projects to said drain electrode in the form of an eave and that is formed on said insulating film; and
thickness of a portion of said insulating film lying between said field
10 plate portion and said semiconductor layer structure gradually increases from said gate electrode toward said drain electrode.
2. The field effect transistor according to Claim 1, wherein said semiconductor layer structure has an AlGaN/GaN hetero structure.
3. The field effect transistor according to Claim 1 or 2, wherein a thickness of said portion of said insulating film varies stepwise.
4. The field effect transistor according to Claim 1 or 2, wherein a thickness of said portion of said insulating film varies continuously.
5. The field effect transistor according to anyone of Claims 1 to 4, wherein said insulating film is a SiON film.
6. The field effect transistor according to anyone of Claims 1 to 4, wherein

said insulating film is a SiO_2 film or a SiN film.

7. The field effect transistor according to anyone of Claims 1 to 4, wherein said insulating film is a laminated layer of a SiO_2 film and a SiN film.

8. The field effect transistor according to anyone of Claims 1 to 7, wherein a drain field plate electrode connected to said drain electrode is arranged on said insulating film between said gate electrode and said drain electrode.